Lucas Riera • Jack Tite

EXTINCT

An Illustrated Exploration of Animals That Have Disappeared

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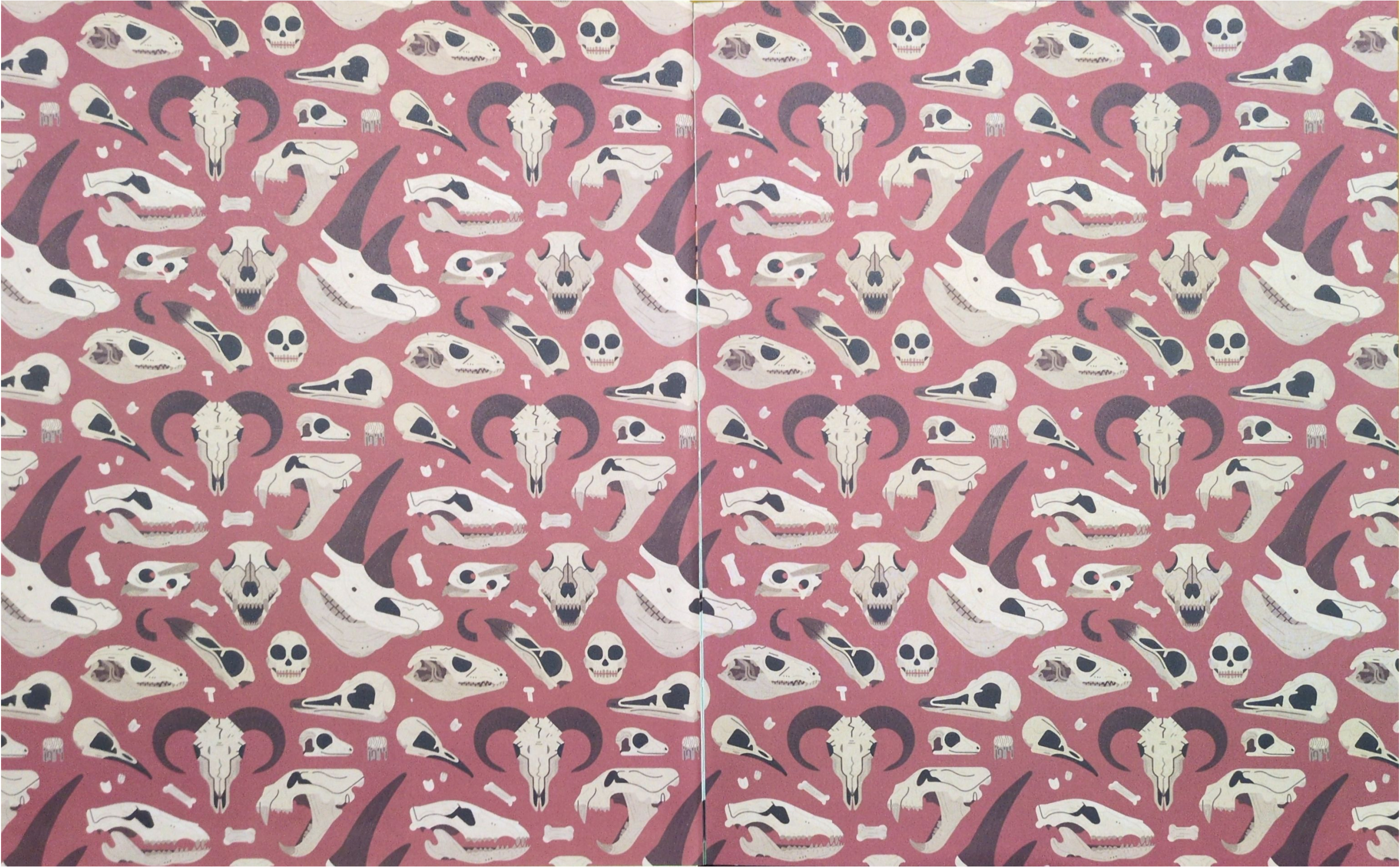

Dear Reader,

When I decided to write this book, I found that there were many books about extinction, but they only covered species that became extinct decades ago. This is why I decided to concentrate on recently extinct animals—and to be specific, mainly on animals that had become extinct from the 20th century to the present day. There were many animals to choose from, each amazing in its own right, but we focused our efforts on those with vivid stories or unique appearances.

As is the case with any research involving wild animals, human observation has its limitations. Even with modern technology, it is not easy to observe species in the wild, and it is rather common that an animal is declared extinct, but then, years later, someone discovers a living specimen or a small group of them. Scientists also cannot keep track of every animal species in the world. We deliberately chose not to cover many insects in this book, precisely because there are millions of species and subspecies all around the planet and they are difficult to quantify. However, this does not mean that insects are less important than other animals, or that they do not become extinct!

The two main sources of information I used for this book were Peter Maas's website, *The Sixth Extinction*, and the International Union for Conservation of Nature (IUCN). The IUCN is a global organization that studies and protects the living creatures on our planet. It is one of the world's leading authorities on Earth's animals.

Finally, I would like to thank María Carmen Soria, author of the website www.animalesextincion.es and contributing author of the conclusion of this book, for her expertise and guidance and for her insight into what we can do to help.

—LR

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Written by Lucas Riera
Illustrated by Jack Tite

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INTRODUCTION

When we talk about extinct animals—animals that have disappeared from our planet—we tend to focus on dinosaurs, mammoths, or mastodons—unfamiliar, extraordinary creatures that disappeared from the face of the earth millions of years ago. We are fascinated by what we know of these enormous beasts that once ruled the sky, the sea, and the earth. However, it is a mistake to think that extinctions are limited to the distant past. The truth is that species (a scientific family of animals that share common characteristics) become extinct all the time—in fact, it's happening right now. Not so long ago, on Monday, March 19, 2018, Sudan, the last male northern white rhino died. Sudan lived in the Ol Pejeta Conservancy—a nature reserve in Kenya—with his daughter, Najin, and his granddaughter, Fatu. Now, with no more males left, the subspecies (or particular kind) of northern white rhino will soon be extinct. And this is just one example. Every year there are animal species that disappear from our planet forever.

Extinction is actually a natural phenomenon. Some animals just do not adapt to their changing environments, and those species die out. This has happened since the origin of life; it's normal, and in fact, essential to the development and evolution of the animal kingdom. So why do we refer to extinction as a problem? Actually, extinction itself is not a problem. However, when human beings live and behave in ways that disrupt the natural world and cause species to disappear at a rate that is faster than normal, it is a problem. Life on Earth is splendidly diverse but also precarious. Systems are interconnected, and choices humans make have a huge impact on animals.

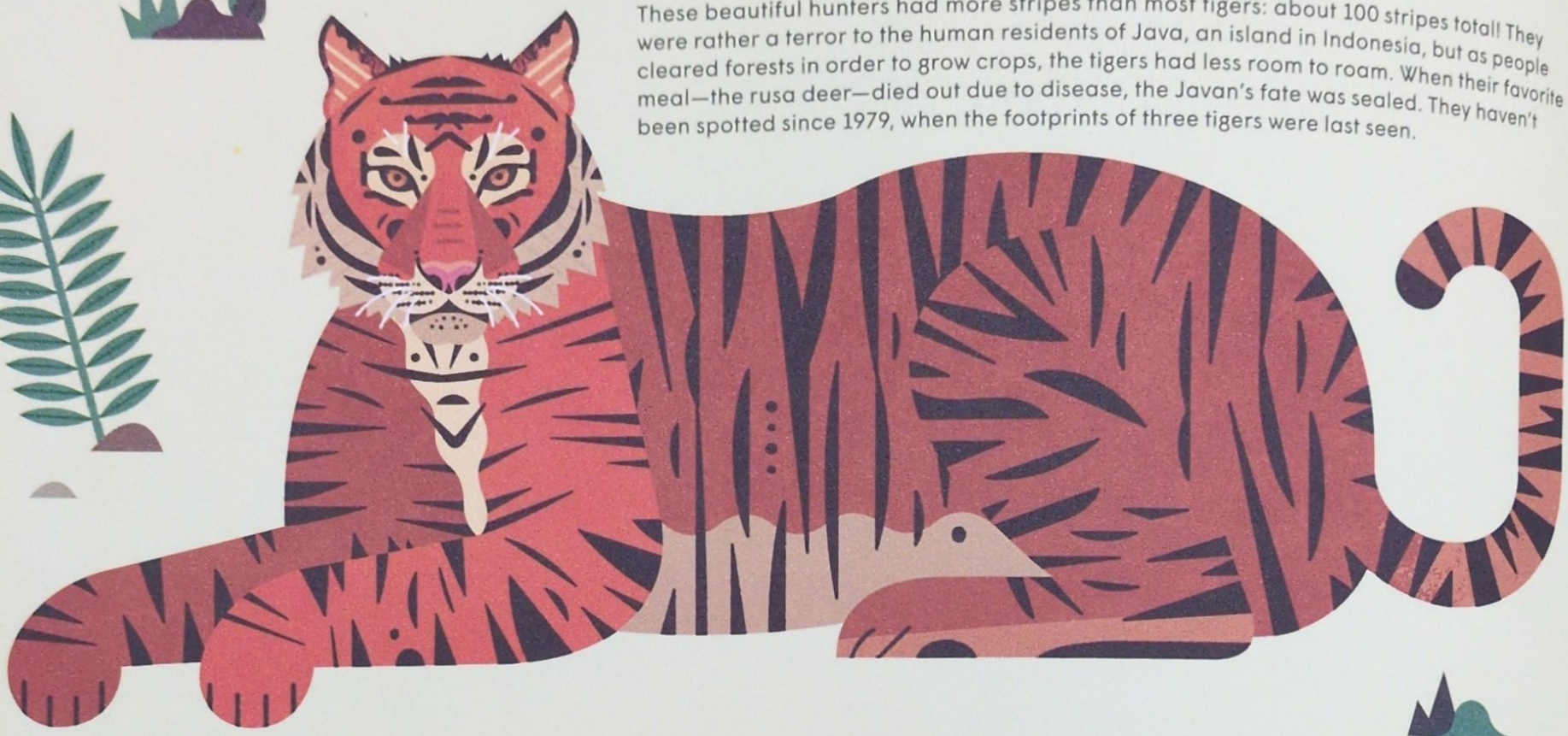
In the following pages, you will get to know over 80 animals that have recently become extinct. You will learn how not all, but many, recent cases of extinctions were caused by human behavior, such as hunting, developing on land where animals lived, or changing the quality of different environments (air, water, or soil) at rates that animals just couldn't adapt to.

But do not lose hope! Even though humanity might be the reason behind extinction, it doesn't mean we can't bring positive change. Many people have dedicated their lives to animal conservation and are making a real difference. At the back of this book, you will find more information about what is happening now and how we can all help by spreading knowledge, by acting more sustainably in our everyday lives and choices, and by urging others to do the same.

This book was written in order to inspire conservation efforts but also to celebrate the beautiful animals that have disappeared from our planet. We cannot bring back the many animals that have become extinct, but as we cherish their beauty, details, and charm, we can work toward preventing other species from needlessly disappearing in the future.

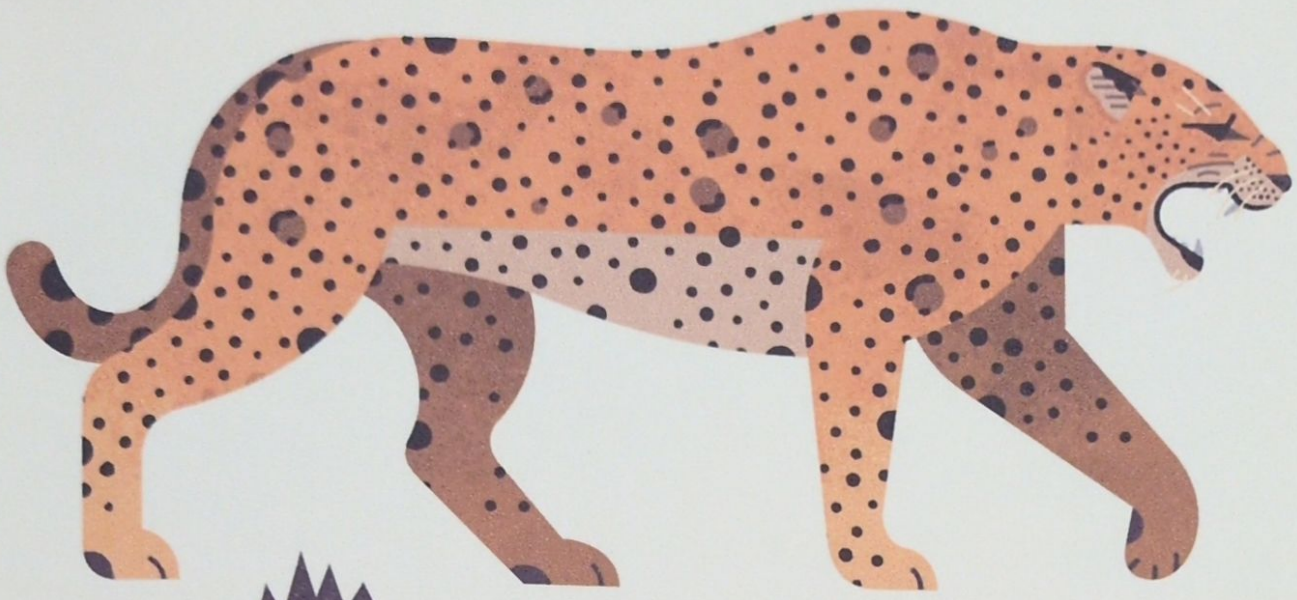
FABULOUS FELINES

Javan tiger
These beautiful hunters had more stripes than most tigers: about 100 stripes total! They were rather a terror to the human residents of Java, an island in Indonesia, but as people cleared forests in order to grow crops, the tigers had less room to roam. When their favorite meal—the rusa deer—died out due to disease, the Javan's fate was sealed. They haven't been spotted since 1979, when the footprints of three tigers were last seen.



Sardinian lynx
Graceful, quick, and smart would be three words that best described this lynx. A relative of the Eurasian lynx, they lived on the Italian island of Sardinia and looked like a tall cat with spectacularly tufted ears. Their extinction was likely due to human encroachment or lack of prey.

Eastern cougar
Common in North America until the late 1800s, these graceful animals began to disappear when land was cleared and their prey—deer, rabbits, and porcupines—became shorter in supply. Settlers also hunted the cougars, hoping to protect their own livestock and pets. There haven't been any sightings of the cougars since 1938.



Zanzibar leopard

Native to an island called Zanzibar in Tanzania, these leopards evolved separately from those on mainland Africa, resulting in a smaller frame and subtler spots. Although they were the top predator of their island, they were hunted to extinction by humans, who believed they were evil. An unconfirmed sighting has, however, given hope to conservationists that they may still be out there.

Caspian tiger

Most tigers top out at 300 pounds, but a robust 500 was more like it for these big golden-yellow beauties. They once roamed vast spans of land in Central Asia but were hunted without mercy. Caspians were so genetically similar to Siberian Amur tigers, which live in Russia, that Russia and Iran may work together to help introduce these other enormous cats into the wilds of Central Asia.

Formosan clouded leopard

Native to Taiwan, these stealthy hunters were known for their thick, unusually patterned fur. (The term "clouded" refers to the distinctive shape of their spots.) Logging (cutting trees for timber) of their natural habitat caused the loss of these leopards, who had thick paw pads that were great for climbing into the canopies of trees. The species was declared extinct in 2013. However, in 2019, two unconfirmed sightings have given hope that they may still be out there.

It was Tibbles!

Would you believe it if someone told you that one single cat eliminated an entire species of birds? Well, it did! Tibbles was a pet cat that belonged to Mr. Lyall, who was a lighthouse guard on an island off New Zealand. It was a lonely job, so he brought Tibbles to keep him company. Tibbles liked to bring gifts to his owner: each day he would catch him a Stephens Island wren, a kind of bird that was only found on that island. Unfortunately, these birds were not used to cats, and Tibbles had an easy job capturing wren after vulnerable wren. By the time Mr. Lyall realized that this species of wren was critically endangered, it was too late!

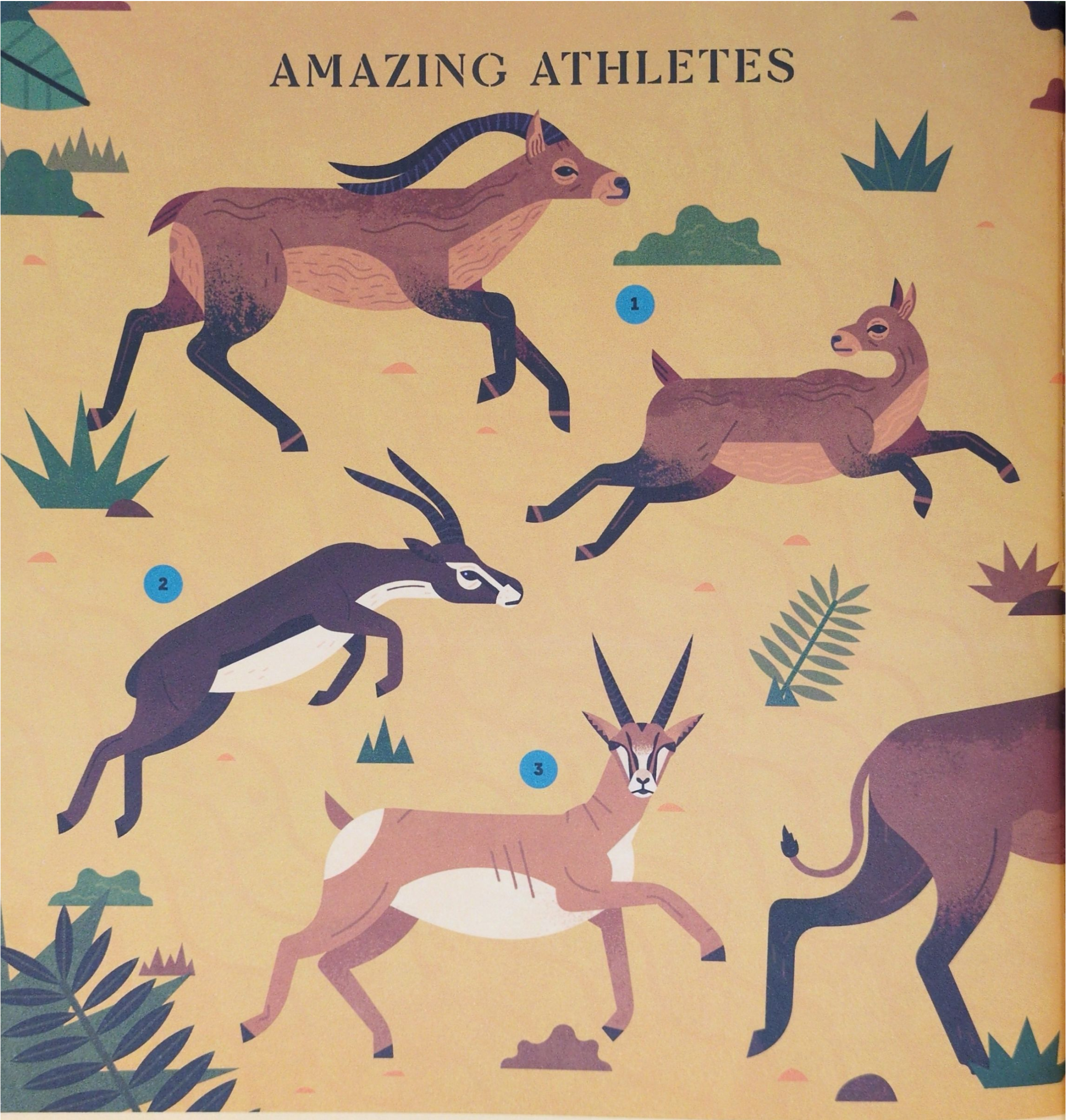
THE THYLACINE

Some call them Tasmanian tigers. Others call them Tasmanian wolves. Technically, they were closer to kangaroos than either of these things. They were the largest known meat-eating marsupials (animals that carry their babies in a pouch).

Thylacines lived alone or in small groups across Australia and New Guinea from as far back as four million years ago. Like kangaroos, they could hop around on their two back feet. Like wolves, they hunted at night—and they were great hunters. They were the size of large, but not huge, dogs. Their striking collection of uneven stripes was thought to serve as camouflage. Their unique, backward-facing pouch was perfect for carrying and protecting their young.

Humans viewed them as pests and hunted them for bounty. Dogs brought by settlers to these regions hunted the thylacine's prey and also carried diseases that spread to the thylacine population. The last specimen was captured in 1933 and lived out its lonely life in an Australian zoo until September 7, 1936.

AMAZING ATHLETES



1. Roberts' lechwe
The lechwe's hind legs were longer than those of most other antelopes, and the males of this subspecies (or particular kind) had amazing, almost horizontal, horns. These fast runners were shy and bolted quickly when threatened. Their cause of extinction is uncertain.

2. Queen of Sheba's gazelle
Native to Yemen, this beautiful species had racing stripes, had adapted to live in broiling conditions, and didn't even need to drink water! Their thin jaws and specialized teeth helped them nibble only the most nutritious plants, from which they extracted all available water.

3. Saudi gazelle
Despite the fact that gazelles are extremely adaptable, the Saudi gazelle hasn't been seen in the wild since the 1980s and was officially declared extinct in 2008 after being hunted off the sandy Arabian plains.

4. Bubal hartebeest
These African antelopes had a beautiful horsey face and a flair for being social. Entire herds of this subspecies of hartebeest once roamed the northern African countryside but died out in 1925 due to hunting.

5. Pyrenean ibex
They disappeared in the year 2000, so you'll have to imagine seeing all 130 pounds of one of these ibex standing in a tree, casually chomping at leaves. These huge-horned, long-furred climbing experts were a prized hunting target because of their ridged horns and fur. They could climb anything but would avoid deep snow (a good way to survive in the chilly Pyrenees Mountains).

6. Arabian ostrich
The introduction of guns and cars into these super sprinters' Arabian habitat proved too much. Tragically, these flightless birds went extinct at some point during the 20th century.

7. Schomburgk's deer
These deer were from Thailand, but they didn't have a Thai-sounding name because they were named after a British consul in Bangkok. They lived in small herds in the lowland plains of Thailand until humans began to use their habitat to grow rice and hunted them for their fur, meat, and antlers. The last known animal of their kind was killed in 1938, though there is speculation that some may still live.

SUPERB SWIMMERS

Japanese sea lion
At over eight feet long, the males of this species weighed around 1,200 pounds—that's considerably more than a grand piano! Their eyes were big, to help them see in the murky deep of the Sea of Japan. Their long whiskers helped them feel around for fish to eat.

Blue walleye

Tecopa pupfish

Houting

Steller's sea cow
Imagine an animal with the body of the world's biggest seal, the face of a walrus, the tail of a dolphin, and the name of a cow. These fantastic beasts were 33 feet long—that's about half the length of a bowling lane—and could weigh up to 10 tons. They were always a target for hunters because of their meat, skin, and blubber. By 1768, they were gone.

Sea mink

Picture a slinky mink . . . and then picture a wet one two times as long. These semi-aquatic animals of the North Atlantic coast had teeth designed to be able to crack open seabird eggs, mollusks, and crustaceans, and even eat seabirds. Their scratchy reddish fur appealed to fur traders, who hunted them with dogs and made traps to catch them.

Yellowfin cutthroat trout

Titicaca orestias

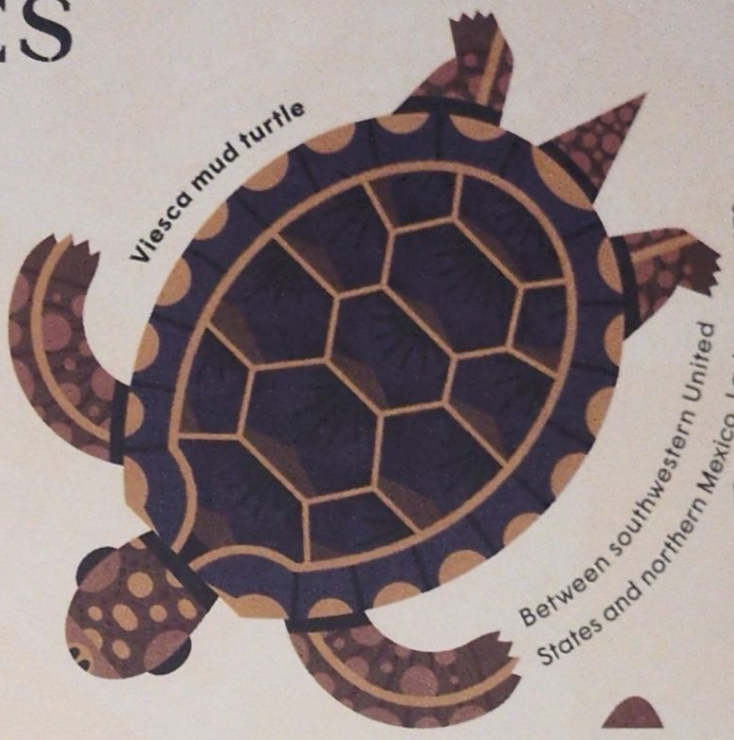
Caribbean monk seal

In 1494, Christopher Columbus saw and described these unusual warmwater seals as "sea wolves." These hefty meat eaters lived in the waters of the Caribbean and often had algae growing on their otherwise brown backs and white bellies, giving them a slight greenish cast! They were reported to have no fear of humans, but humans and sharks were the main predators of these seals. One seal was last sighted in 1952.

REPTILES

Roque Chico de Salmor giant lizard

El Hierro Island (Spain). Disappeared during the 1930s.

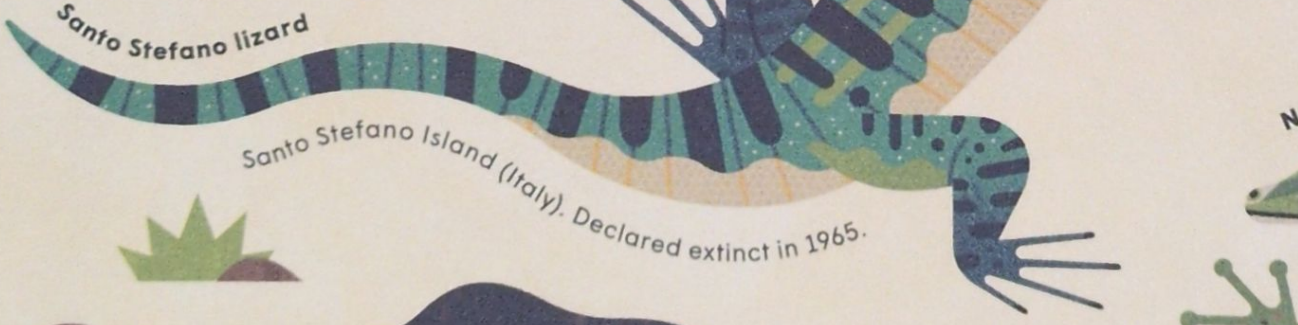


Viesca mud turtle

Between southwestern United States and northern Mexico. Last seen in 1970.

Round Island burrowing boa.

Mauritius. Last seen on Round Island in 1975.



Santo Stefano lizard

Santo Stefano Island (Italy). Declared extinct in 1965.

Newton's day-gecko

Rodrigues (Mauritius). Last seen in 1917.

Pinta giant tortoise

Pinta Island (Ecuador). The last tortoise died in 2012.

Cape Verde giant skink

Islets Branco and Raso (Cape Verde). Last seen alive in 1912.

Floreana giant tortoise

Floreana Island (Ecuador). Declared extinct in 1996.

Barbados racer

Barbados. Last seen in 1961.

Fernandina giant tortoise

Fernandina Island (Ecuador). Last seen in 1906.

Martinique giant ameiva

Martinique (France). Since 2016, its presence has been uncertain.

Eastwood's whip lizard

South Africa. Last seen in 1911.

BIG AND BEAUTIFUL

Vietnamese Javan rhinoceros

It can be hard to imagine something so large being so vulnerable. Though they were on the smaller size for rhinos, they measured nine feet long, six feet tall, and weighed three tons. The weight of the largest of these was comparable to that of a pickup truck! They became extinct in the wild, but a few were preserved in captivity in Vietnam. In 2011, the last one died in a tragic way. Despite being in a conservation site, it was shot by a poacher for its horn.

Madagascan dwarf hippopotamus

This species lived for thousands of years in the rivers and lakes of Madagascar, foraging on vegetables, berries, and plants on the shore rather than feeding on aquatic plants. Though no fossils have been found that show the animals as having existed within the last thousand years, Madagascan legend, as recently as 1976, tells of a dark, grunting animal the size of a cow that would rush off into the water when threatened. And that animal sounds an awful lot like this hippopotamus.

Western black rhinoceros

Some rhinos live in tropical forests and are not easy to find. But there was no such protection where these rhinos lived—in the pastures of the African savanna, which are vast and open. This made it easier for poachers, who were tempted by the long central horn of these rhinos, to successfully hunt them. They had two horns, and the larger one could reach four feet in length in adult males—that's roughly as long as you are tall! Poaching dwindled the rhino's numbers from around 850,000 in the mid-1900s to a mere 10 or so in 2000. They were declared extinct in 2011.

THE PASSENGER PIGEON

Ornithologists (people who study birds) tell of great storms of passenger pigeons flying overhead only 200 years ago. They would cause the sky to turn as dark as night and the temperature to plummet. Can you picture a "cloud" made of these birds? Thousands upon thousands of passenger pigeons migrated far and wide across North America in such flocks.

After a long winter, the sky would fill with . . . well, meat. The pigeon's flesh was free and easy to catch—swing a bat and you could hit some—and humans started to kill them by the thousands. It is said that 200,000 birds were killed in one single day. This extermination carried on until 1900, when the last wild passenger pigeon died.

Martha was the last passenger pigeon. She was kept in captivity at a zoo in Cincinnati, Ohio. Unfortunately, she lived a lonely life and was unable to reproduce. On September 1, 1914, Martha died, marking the end of a loud, strange, fabulous era of dark moving skies. This was an era that no one thought could come to an end. The good news is that it was the dawn of something else: a conservation movement. Martha's death led to laws designed to protect other endangered species in the United States.

POWERFUL PACK

Kenai Peninsula wolf
The average moose weighs ten times as much as an average wolf. But moose are what these wolves, one of four types specific to Alaska, ate. This may be why it evolved to be so large, weighing up to 200 pounds. They were plentiful on the Kenai Peninsula until gold was discovered there in 1895 and miners flooded in. Thirty years later, all the wolves had been trapped or hunted to extinction.

Florida black wolf
These wolves lived in thick forests of the Florida peninsula. When the forests were cut down to create farms, large families of wolves were left out in the open without any shelter or homes. They all vanished in the beginning of the 20th century.

Warrah
It's a mystery how wolves ended up being on the Falkland Islands: they were the only mammals there aside from tiny mice. These wolves ate birds, such as penguins and geese. They had blond fur with black speckles and doglike qualities. The fact that they were trusting of humans and had no forests to hide in led to the species being hunted to extinction.

Mississippi red wolf
Red wolves are combinations of coyotes and gray wolves, and the Mississippi version was slightly larger and more slender than average. A native to the state of Mississippi, its fur had a mahogany hue.

Japanese wolf
The Latin name for this gray wolf, *Canis lupus hodophilax*, means "guardian of the path." In Japan, wolves were thought of as protectors, but when rabies spread to wolves and they became aggressive toward people, humans thought differently of them and hunted them. In 1905, the last Japanese wolf was killed.

Fuegian dog
These otter hunters were foxes with a gentle nature and were kept as pets by the indigenous Yaghan people of South America. But European settlers saw them as pests, and they were exterminated in the early 1900s.

THE CALIFORNIA GRIZZLY

California grizzly bears were mighty brown bears with which humans had a love/hate relationship. They impressed humans with their strength and skill. Not surprising! Standing up on their hind legs, they were about as tall as a professional basketball player, only they could weigh over a ton!

But these bulky, hungry bears were always ready to eat anything, and as they began to kill ranchers' cattle and destroy their crops, people began to view them as dangerous enemies. Unsurprisingly, humans were the main reason behind the bear's extinction. Some grizzlies were even lassoed and forced to fight against bulls while people watched.

The last California grizzly was hunted and killed in 1922. Since then, none of this species have been seen on the beautiful Californian terrain. This iconic brown bear can now be seen only as part of the California state flag.

BIRDS

Birds have been disappearing from the planet for a number of reasons. Deforestation, climate change, and natural disasters, to name a few, have affected or destroyed their natural habitats. Sometimes, sources of food were disrupted or died out, leaving some birds competing with other species for food. Poaching and hunting by humans and the introduction of invasive predators have also affected them. Sometimes, they are simply not able to adapt to new circumstances. Here are a few birds that have disappeared in the last century.

Kaua'i 'ō'ō

Guadalupe caracara

Aguiguan reed warbler

Canary Island oystercatcher

Kaua'i 'akialoa

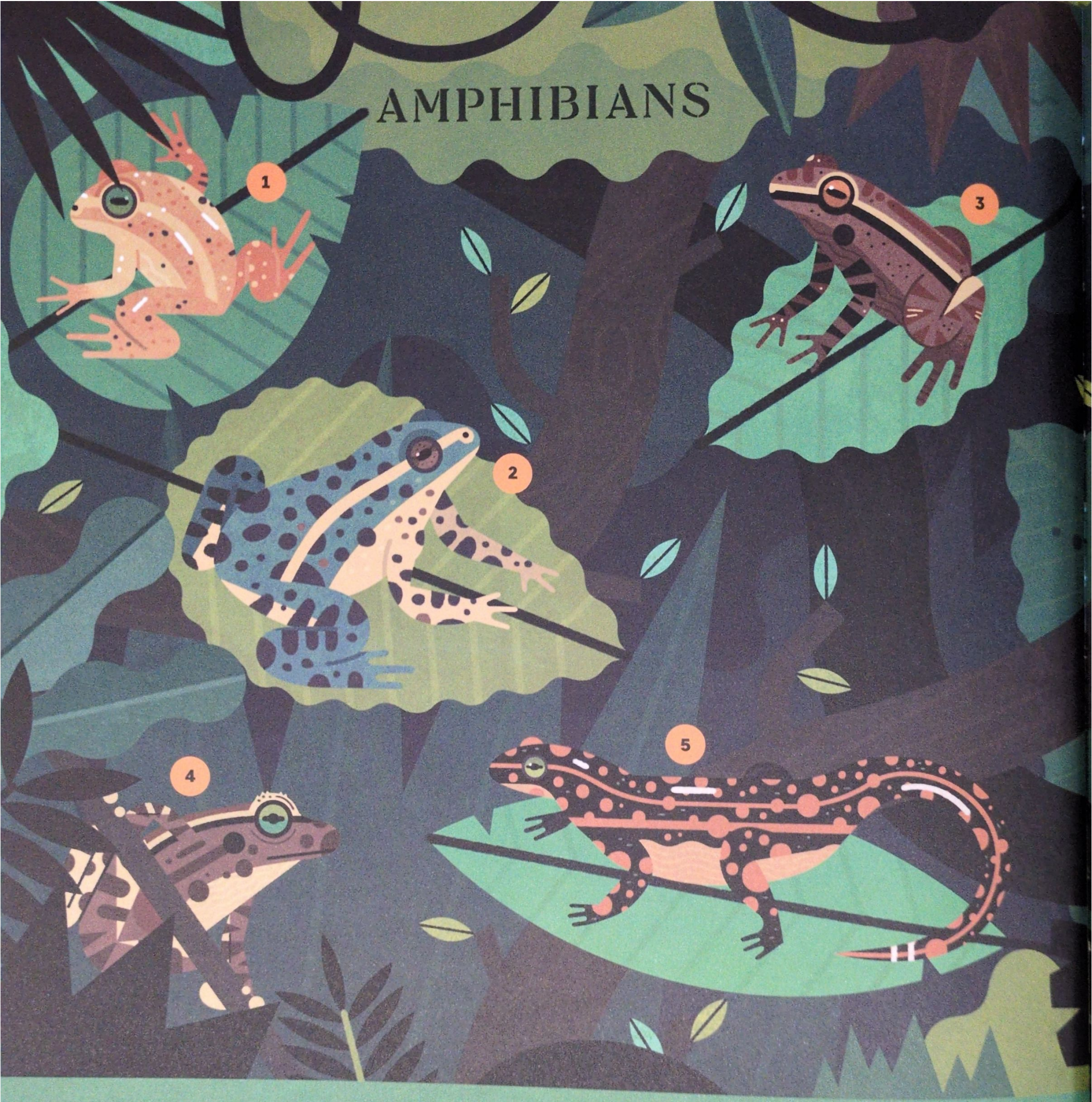
South Island piopio

North Island piopio

Nightingale reed warbler

Nuku Hiva monarch
Atitlán grebe
Laughing owl
Carolina parakeet
Alaotra grebe
Guam flycatcher
Guam bridled white-eye

AMPHIBIANS



1. Golden toad
Once described as "dazzling jewels on the forest floor," these tiny amphibians lived in the cloud forest in Costa Rica. There are different theories about why they died out, but one is that their habitats became hotter and dryer due to global warming, which also made the toad vulnerable to a fatal skin disease.

2. Vegas Valley leopard frog
This variety of leopard frog—which is a frog with dark spots—once lived in Las Vegas, Nevada. It was deemed extinct in 1996, most likely due to the city's development. The Chiricahua leopard frog, a species from Arizona, appears to be identical, but that species is endangered.

3. Heredia robber frog
These bumpy, woodsy-looking fellows, identifiable by their red bellies, lived in humid areas near the volcanoes in Costa Rica. The species was declared extinct in 2004, but in 2016, one female was found. She is likely the sole survivor of her kind.

4. McCranie's robber frog
This species from the wetlands and streams of Rio Viejo in Honduras was likely affected by deforestation, humans moving into the area, and a fungus that kills many types of frogs. Landslides and fires may have also contributed to these frog's demise.

5. Yunnan lake newt
Short-snouted, pointy-tailed, and orange with black spots, these Chinese newts from the area around Yunnan lake were affected by habitat loss and pollution. Animals introduced to their habitat also likely affected their ability to survive.

6. Ainsworth's salamander
These delicate creatures from Mississippi have not been seen since 1964. Salamanders require a balanced natural environment. The reason for their extinction is unclear, but it was likely due to habitat loss and deforestation.

7. Longnose harlequin frog
These frogs—known for having an unusually pointy snout—were thought lost forever but were recently rediscovered in Ecuador, their native home. The survival of the species is now dependent on four frogs. From this small group, scientists hope to one day breed a wild population.

8. Gastric brooding frog
The gastric brooding frogs (also known as platypus frogs) were remarkable. The females swallowed their eggs during gestation. The eggs grew inside her belly! After six weeks, her developed babies would emerge from her mouth. Sadly, these wonderful weirdos have been extinct since 2002.

9. Jambato toad
These red-bellied toads of Ecuador have been affected by a fungal disease as well as warming temperatures in the Andes Mountains. They had been declared extinct but were rediscovered in 2016 by local farmers. Scientists hope to find a brighter future for the species by breeding some in captivity.

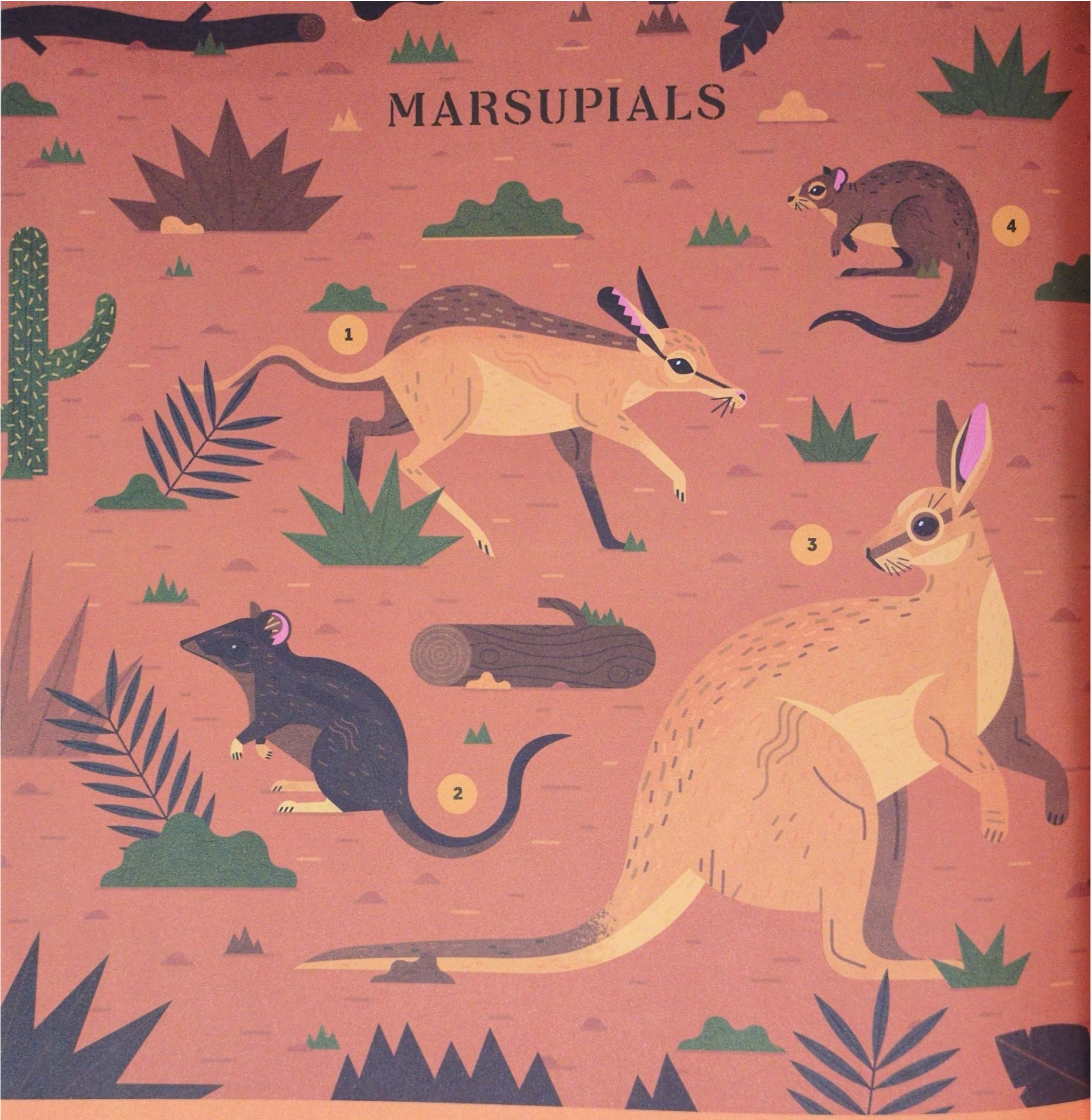
10. Extinct insects
While this book does not address the upward of 100 extinct or possibly extinct species of insects, these butterflies, called the Xerces blue, deserve a tribute. Native to the San Francisco Peninsula, these stunners became extinct in the 1940s due to a change in climate and habitat.

THE GREAT AUK

In the Gaelic language, *auk* means "white head" and referred to two large white spots found in front of the bird's eyes, which stood in great contrast to the dark of its face. These unusual-looking birds could not fly, but were highly capable swimmers, and preyed mainly on fish. Individual great auks could stand three feet tall. Colonies of these birds once thrived in Europe and North America, but great auks went extinct more than a century ago due to a series of unfortunate circumstances.

Overhunting led to the disappearance of great auks from Europe and North America, but a colony survived on an island in Iceland. The island was made from volcanic rock and surrounded by cliffs. Eager hunters, who viewed auks as a large and easy source of meat and lovely feathers, were not able to access the island. But when the island's volcano erupted, the auks were forced to move to Eldey, a nearby island. This gave humans easy access to the defenseless birds and wiped them out. These birds were declared extinct in 1852.

MARSUPIALS



1. Pig-footed bandicoot
Cat-sized, bird-faced, and pig-named—these marsupials (mammals that live in their mother's pouch after they are born) had toes on their front feet that resembled pig hooves and that were used for digging. Their back toes had more horselike hooves. They lived in the woodlands and dry grasslands of Australia, feeding mainly on plants and roots. Their extinction likely had to do with the fact that many aboriginal people died and no longer burned the grasslands and hunted in ways that kept the land in balance for the bandicoot. Grazers, including sheep, also changed the nature of the land.

2. Red-bellied gracile mouse opossum
The entire forest in the Jujuy province of Argentina, where these creatures lived, has been deforested by humans, who now use the land for agriculture and industry. So, all of the red-bellied gracile mouse opossums—that were really opossums the size of mice— have died. No living specimens have been sighted since 1962.

3. Crescent nail-tail wallaby
At two feet tall, these once bountiful wallabies looked much like minikangaroos. They had a nail on the tip of their tails and silky fur and lived in central and western Australia. When they ran, they did so awkwardly, wheeling their forelimbs (arms) in circles, in what must have been a charming way. Experts say that they became extinct in 1956, probably due to the introduction of other animals to their habitat, specifically the red fox.

4. Desert bettong
These small marsupials managed to survive in the scorching, dry Tanami Desert of Western Australia: one of the most isolated, arid places on Earth. But they didn't survive the introduction of the red fox and domestic cat, brought by humans settling the land. Their final extinction date is unknown, but it has been estimated to be around the 1950s or 1960s.

5. Toolache wallaby
Renowned for their beauty, this social species lived in the swampy grasslands of Australia. They had pale fur with black accents on their feet, ears, tip of their tail, and running from the nose to the eyes. They suffered when swamps were cleared, and again when foxes were introduced, and again from being hunted for their beautiful fur as well as meat. These wallabies became extinct in the 1940s.

6. Desert rat-kangaroo
Built to hop, these beautiful Australian creatures were described as having chocolate fur with an orange glint. Shaped like kangaroos, but sized like rabbits, their long, thin tails contributed to their hopping skill, as did their powerful back legs with a mass about 12 times larger than their front legs. They were last seen in 1935.

7. Yallara
Aboriginal lore tells of a small, strange, brave, fierce animal in the barren deserts of central and northern Australia. They weighed about the same as a can of tomato soup—although that was admittedly not part of the lore. They slept all day and fed on insects, roots, and seeds. They shall certainly be missed.

PRIMATES

Hundreds of kinds of primates live in tropical forests around the world. They range in weight from about one ounce to 450 pounds, and because they are large-brained and have similarities to humans, they can be delightful for us to watch and to learn about. While the monkey and lemur species described here became extinct in the 18th century, 20 different species of lemurs—each with their own details, descriptions, and delights—are, at the moment, critically endangered.

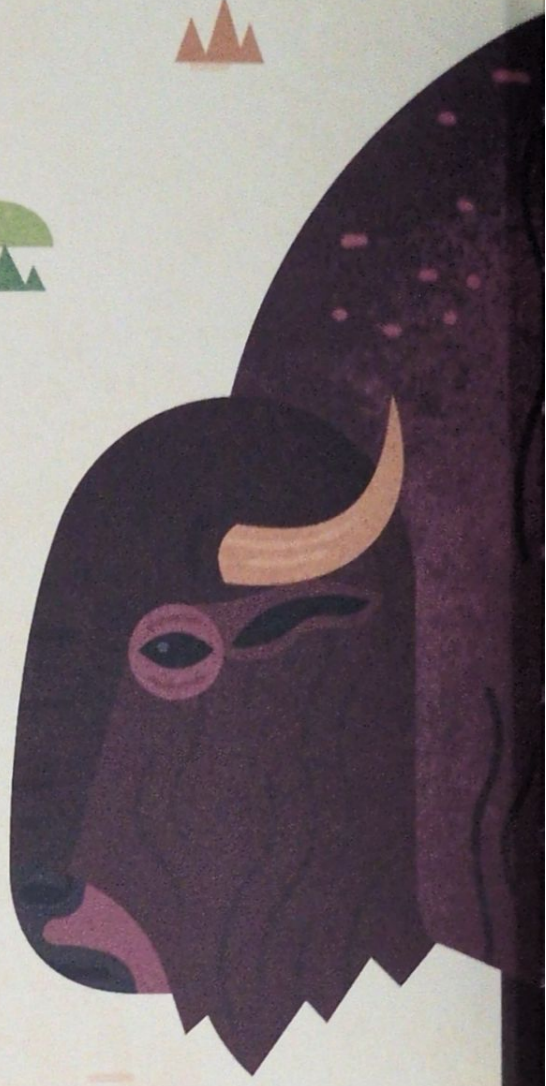
Jamaican monkey
These smallish monkeys were originally believed to be from Jamaica and disappeared around the 18th century. It caused quite a stir when scientists realized that the monkeys were actually native to South America and that they had probably traveled to Jamaica by floating across the Caribbean on plants and wood that served as rafts!

Large sloth lemur

These large, long-limbed swingers lived high in the branches of trees in Madagascar. A study of their jaws showed that they were experts at eating all sorts of leaves, fruits, and nuts. They vanished when humans arrived on the once-secluded island.

FANTASTIC FORAGERS

These animals were largely from the grassland and united in their devotion to foraging and rooting for tubers, berries, and bugs, or grazing on long grasses.



Indo-Chinese warty pig
Native to Laos and Vietnam, this species had been declared extinct, but in 1995, the skeleton of a recently deceased pig was discovered. It has since been declared extinct again. We know very little about this species except that it is a close relative to the wild boars of Indo-China.

Syrian wild ass
These donkeys native to the Arabian Peninsula were known for their grace and strength. They lived in arid areas and their coats changed seasonally from reddish olive (summer) to yellowish (winter). Small for a donkey, they stood only a few feet high. They were never domesticated.

Caucasian wisent

Thousands of these relatives of the bison once thrived in the cold mountains of Eastern Europe despite being hunted by lions and tigers, wolves and bears. In the 19th century, their population numbered in the thousands, but then humans settled in the mountains and hunting ensued. In 1927, poachers killed the last three individuals that lived in the wild.

Cebu warty pig

Solid, scruffy, and arguably adorable in appearance, these wild boars were native to the Philippines, more specifically, the Visayan Islands. Males were about three feet long but weighed upward of 400 pounds. Eaters of berries and roots, they also found larvae delicious.

Big Thicket hog-nosed skunk

Native to a heavily forested area in southeastern Texas called the Big Thicket, these unusually large omnivorous skunks were easily spotted thanks to their completely white backs, which made them a coveted catch for hunters and which, in turn, seems to be the main reason for their extinction.

EXTINCTION TODAY

The animals profiled in this book highlight an upsetting trend: that over the last century or so, we've lost many more animals to extinction than you would have imagined. And a recent United Nations report states that one million more species are currently at risk of extinction.

Extinction is a natural process. The "natural rate of extinction" is how quickly a species would go extinct if human activity didn't play a role. But at this point in time, the rate of extinction is estimated to be much faster than the natural rate—by as much as 1,000 times. It's the sixth time in billions of years that levels of extinction have been extremely high. The other five times, catastrophic events set off the extinctions. For example, it is believed that an asteroid once struck the planet and caused so much soot to fill the atmosphere that the temperature of the world cooled by about 15 degrees Fahrenheit. This was enough to kill off about three-quarters of life on Earth. This time, however, humans have triggered or contributed to many of the recent causes of extinction, some of which are described below.

HABITAT LOSS: When areas of land, such as forests, are cleared to collect wood or to make room for farming, or mining, or places to live, thousands of animals are put at risk. Experts estimate that 78 million acres of the Amazon rainforest are lost to deforestation each year. The Amazon is home to about 10 percent of all known animal species in the world, and deforestation puts thousands of animals at risk by removing their natural habitats.

OVERFISHING: As the human population on Earth increases, the demand for fish does too. The fishing industry catches more fish than can be naturally replaced. For example, five out of eight species of tuna are now at risk of extinction.

HUNTING AND POACHING: Poaching is the illegal killing of animals. It is usually done to make money from selling body parts or skins. For example, elephants have long been killed for their valuable ivory tusks. In Asia, a hunted tiger is worth a lot. Their furs are used for decoration, and their body parts are used in traditional medicines.

POLLUTION: Humans release harmful substances that damage the air, water, and soil. Some examples of water pollution are oil spills, which have killed untold numbers of ocean animals. There are billions of plastic particles in the sea, and birds, whales, turtles, and others eat plastic they confuse with food. Fourteen billion pounds of trash are dumped into the ocean every year.

CLIMATE CHANGE: The fuels that we burn to make energy to heat homes, turn on lights, and drive cars release greenhouse gases into the atmosphere. Most scientists attribute the recent rise in the earth's temperature—global warming—to human behavior. In addition to causing extreme weather events, global warming warms the oceans, which contributes to the endangerment of coral reefs. Reefs are disappearing fast due to rising ocean temperatures, and as they die out, there are devastating consequences for many marine animals.

BUT WE CAN STILL MAKE A DIFFERENCE!

Many people—scientists, volunteers, and even kids—work to save animals and the environment through researching, campaigning, petitioning, educating, and offering creative solutions.

There are also lots of organizations that help save animals and their habitats from all sorts of threats. A few of these are:

- **The WWF** (Word Wildlife Fund)
- **The IUCN** (International Union for Conservation of Nature)
- **The NWF** (National Wildlife Federation)

Countries are also realizing that working together is one of the best ways to create policies and change. For instance, 12 countries are working together right now to double the number of wild tigers in the world by 2022.

The Paris Climate Agreement is another example of this: in 2015, nearly 200 countries promised to tackle the climate change crisis together.

Many countries, organizations, and people around the world are also working to establish parks and reserves so that there are safe, protected areas of land where it is not possible to poach animals, build structures and buildings, or clear forests.

In fact, the combined efforts of lots of people have resulted in some positive results already.

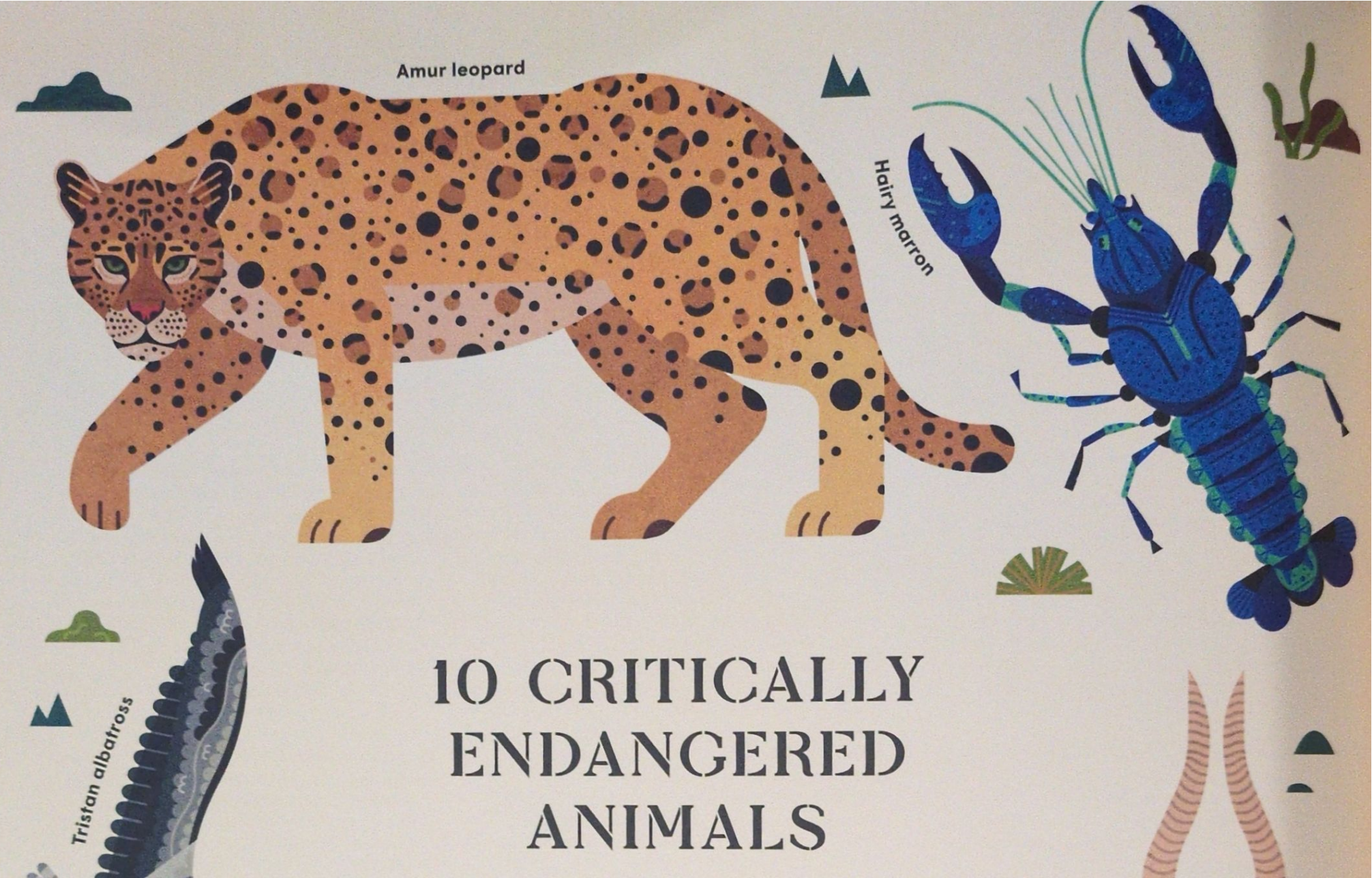
- In 2016, the giant panda was removed from the endangered list thanks to international conservation efforts. Its population has increased by 17 percent in the last 10 years.
- Antipoaching efforts have helped downgrade the Siberian tiger from critically endangered—meaning that the tiger's likelihood of extinction was high—to endangered.
- Some animals have been successfully reintroduced into the wild: for example, the Arabian oryx is back from the brink of extinction thanks to scientists who bred them in captivity and reintroduced them into the wild. The Iberian lynx and the Mexican wolf have also been reintroduced into the wild.
- In 2017, China, under pressure from the public, finally banned the sale of elephant ivory.
- The cruel and controversial practice of shark finning—cutting fins (a delicacy) from a shark, often while the shark is still alive—is now regulated to some degree in 31 countries.
- Mountain gorillas are the only great ape with an increasing population. Paid tourism brings money to the local people who share their land with gorillas. This helps people develop new businesses so that they are less dependent on forests.

WHAT'S BEING DONE TO HELP ENDANGERED ANIMALS?

Some animals are endangered and others are what we called "critically" endangered. When an animal is critically endangered, it means that its likelihood of extinction is quite high. The three animals below are examples of species that are categorized as critically endangered. Here's how people and organizations have been doing their best to save these vulnerable animals:

- **CHINESE PANGOLIN**
  These scaly eaters of insects protect the forest from destruction by termites. But they themselves have been victims of deforestation. They are also targeted by poachers for their meat, claws, and for their blood and scales, which are believed to have healing powers. There have been efforts to prevent poaching of pangolins in China: one example is a public service announcement by the actor Jackie Chan. It was made as a result of a partnership between WildAid and the Nature Conservancy. Raising awareness is a key to stopping the trade of Chinese pangolins.
- **ORANGUTAN**
  In the last century, over half of these critically endangered apes have been dying out due to deforestation and hunting. Many different groups in Indonesia support efforts to protect orangutans by stopping the illegal trade of them and protecting their forests. There are also efforts to protect and monitor orangutans as they are reintroduced to particular areas.
- **AMUR LEOPARD**
  Amur leopards are one of the rarest cats on Earth due to hunting and habitat loss. They are now the focus of a program between conservation agencies in Russia and Western nations. The cats are being bred in captivity with the aim of one day being able to release them into the wild.

These are a few examples of the many different efforts being made by inspirational individuals and groups around the world to help critically endangered animals, but more help—much more help—is still required. There are no straightforward solutions, but if lots of people work toward the same goal, these animals will have a higher chance of survival. You can help too. See the last pages of this book for ideas on how to get involved.



10 CRITICALLY ENDANGERED ANIMALS

These 10 animals are currently facing an extremely high risk of extinction in the wild. The International Union for Conservation of Nature (IUCN) keeps track of animals like these that are quickly nearing extinction.

Orinoco crocodile

Variable cuckoo bumblebee

Sumatran orangutan

Chinese pangolin

Vaquita

HOW CAN I HELP?

You don't need any training, and you certainly don't need to be a grown-up to get involved. If you and others make small changes in your daily lives, it will make a difference. Here are some simple things you can do—whether you are working alone or with your family, an organization, or your country.

TO GET INVOLVED LOCALLY

- Pick up litter when you see it: this helps wildlife.
- Learn to identify local animal species.
- Volunteer to monitor local animals. (Sometimes a conservation group will hold a "census," when a group goes out and counts animal populations. Watch out for that sort of opportunity!)
- Get involved with caring for community gardens and green spaces.
- Plant native trees and plants! These create or sustain shelter and food for local animals.
- Join a local conservation group. These will have plans in place to help protect natural resources as well as animals and their habitats.
- Share your activities on social media to get others interested in working with you.

TO GET INVOLVED INTERNATIONALLY

One way to contribute to the work of international organizations is to spread the word about what they are doing. Follow these groups on social media. For instance, if someone has a cool way that they are trying to stop habitat destruction, you can learn about it and also share the information with your friends. Here are some international conservation organizations:

- The Nature Conservancy
- The World Wildlife Fund (WWF)
- The International Union for Conservation of Nature (IUCN)
- The International Rhino Fund
- Project Aware
- The Jane Goodall Institute

MAKE RESPONSIBLE BUYING DECISIONS

One of the best actions you can take to help the environment and the animals in it is to make careful buying decisions.

- Before you buy anything, ask yourself: *Do I really need this*? If you do, ask: *Is it possible for me to get this secondhand?*
- When you do buy, look for products that don't have lots of packaging and whose production wasn't harmful to the environment.
- Buy sustainably sourced products: avoid things containing palm oil, the making of which is a major cause of deforestation.
- Carry your own shopping bags: plastic ones are a danger to sea creatures.
- Avoid buying anything made from single-use plastic. Carry a reusable bottle with you to refill with drinks.
- Eat locally sourced foods as much as possible: transporting food contributes to greenhouse gases.
- Never buy products made from endangered animal parts.
- Buy secondhand clothes (and recycle old clothes!). Making new clothes uses a lot of water and energy and uses a lot of dyes and chemicals that enter and damage the environment.
- Use reusable batteries: batteries contain chemicals harmful to the environment; it's best not to have to throw them away.
- Buy recycled paper and wood products to save cutting down trees.

OTHER GOOD HABITS

- When you can't reduce, reuse. If you can't reuse, recycle.
- Switch off lights to save electricity: using energy produces pollution.
- Save water: turn off the tap when you aren't using the water. Making clean drinking water uses lots of energy and produces pollution.
- Walk and cycle more! Drive and ride in cars less. Cars contribute to global warming.
- Save paper by using both sides. It results in fewer trees being chopped down.

KNOWLEDGE IS POWER

You have taken the first step toward helping endangered animals by beginning to learn about the crisis of extinction: what it is, what leads to it, and what we can do to prevent it. Keep researching, reading, and learning.

Knowledge is power. But taking responsibility for your own actions is another form of power. We all share one world together, so setting an example and sharing information with the people around you will gather more and more people together to fight for the care of every living thing on Earth.

From the majestic Caspian tiger to the dazzling golden toad, animals are going extinct more quickly than ever before. In the pages of this book, readers will encounter over 80 extraordinary animals that have disappeared from our planet during the last 100 years. Celebrate their beauty and unique qualities, and learn how we can work together today to protect endangered species around the world.

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